



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,777	10/30/2003	Yi Yeol Lyu	3811-0130P	6882

2292 7590 05/09/2005

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/695,777

Applicant(s)

LYU ET AL.

Examiner

Marc S. Zimmer

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-15 and 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent # 5,468,829 for the reasons made of record in the correspondence dated December 21, 2004.

***Response to Arguments***

Applicant's arguments will be addressed by restating the argument followed by a rebuttal:

Bergstrom fails to disclose or suggest a low dielectric constant (3.0 or less) silane resin suitable for use as a semiconductor insulating film. Indeed, Bergstrom fails to have any teaching or suggestion of a dielectric constant. The in-situ reinforced elastomer of Bergstrom results from reacting a polydiorganosilane to produce an elastomer having a high tensile strength, typically above about 500 psi (3448 KPa). See Bergstrom at column 5, lines 25- 27. However, Bergstrom's elastomers are high strength elastomers that cannot be compared to the insulating film material of the invention. The teachings of Bergstrom thus have nothing to do with the siloxane-based resin of the present invention.

The fact that Bergstrom fails to disclose an insulating/low dielectric property is of no consequence to patentability provided that the property recited by the claims is inherent in the product taught by the reference. Given that Applicant's resin and that disclosed by the reference are prepared using precisely the same organosilicon reactants, it is the Examiner's position that this aspect is inherent.

Art Unit: 1712

"products of identical chemical composition can not have mutually exclusive properties."

A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See also *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." Further, "the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious." See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

On the other hand, were Applicants to somehow illustrate that the claimed property was unexpected, then the Examiner would be compelled to revisit the notion of whether the claimed property rendered the claim(s) allowable. "Rebuttal evidence may also include evidence that the claimed invention yields unexpectedly improved properties or properties not present in the prior art. Rebuttal evidence may consist of a showing that the claimed compound possesses unexpected properties." *Dillon*, 919 F.2d at 692-93, 16 USPQ2d at 1901. However, "a showing of unexpected results must be based on evidence, not argument or speculation." *In re Mayne*, 104 F.3d 1339, 1343-44, 41 USPQ2d 1451, 1455-56 (Fed. Cir. 1997)

Also, the Examiner admits that Bergstrom uses a different catalyst system at page 2, lines 16- 17 of the Office Action. However, it naturally follows that different catalysts will result in dissimilar polymeric materials having different properties. As a result, there is no basis to assume that that elastomer of Bergstrom would have a low dielectric constant, because the elastomer is prepared using a different process and catalyst.

The Examiner has presented a position that, in fact, the catalyst has no influence over polymer structure. Rather, the catalyst serves only to lower the energy barrier to reaction. (The Examiner acknowledges, of course, that specialized catalysts can dictate stereochemical outcomes but that is not the case here.) Arguments to the contrary on the part of counsel cannot take the place of factually supported objective evidence. See, e.g., *In re Huang*, 100 F.3d 135, 139-40, 40 USPQ2d 1685, 1689 (Fed. Cir. 1996); *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). Insofar as Applicant has furnished no evidence that the employment of a different catalyst will yield meaningful structural differences in the claimed resin product, the fact that Bergstrom uses a tin-based catalyst as opposed to an acid or alkaline catalyst cannot represent a basis for withdrawal of the standing rejections.

...the Examiner asserts that the preamble of claim 6 gives no patentable weight to the claim. However, the interlayer insulating film for a semiconductor device recited in the preamble has weight, especially when considered in light of the body of the claim.

Section 2112.02 of the MPEP sets out the criteria to be considered when determining the weight to be assigned to the preamble. "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than

Art Unit: 1712

any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim). Because (i) the body of the claim defines a structurally complete invention, (ii) the preamble does not provide any distinct definition of the claimed invention's limitations, and (iii) the insulating property is inherent to the resin defined by the body of the claim, the preamble is assessed essentially no weight.

... the Examiner admits to Bergstrom's failure to disclose a solvent (Office Action at page 3, lines 14- 15), the amount of water (page 5, lines 1- 3) and the curing time (page 5, lines 9- 10). However, the Examiner fails provide discrete evidence of a motivation to modify Bergstrom other than to claim that the modification was within the abilities of one of ordinary skill or attainable through routine experimentation.

The rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d

Art Unit: 1712

347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the present case, the Examiner has alluded to *In re Lindner* 173 USPQ 356; *In re Dial et al* 140 USPQ 244 which say that, "it is prima facie obvious to add a known ingredient to a known composition for its known function. Further, the reasons for adding a solvent, i.e to facilitate mixing, lower viscosity, enhance workability, etc., are so completely evident to one of ordinary skill so as to not even deserve mention in the literature.

Further, even if one assumes *arguendo* that Bergstrom is sufficient to allege *prima facie* obviousness, this obviousness would be fully rebutted by the unexpected results of the invention. These results include the refractive index (Table 3), uniformity of refractive index (Table 3), uniformity of thickness (Table 3), dielectric constant (Table 4), Hardness (Table 5) and Modulus (Table 5). The advantages of the invention are thus clear.

It is not insignificant that the Examiner's only reasons for rejection under 35 U.S.C. 103 as opposed to 102 was because a solvent had not been disclosed and a different condensation catalyst had been used. Certainly, these materials are not responsible for the properties mentioned by Applicant. Furthermore, Applicant has not even explained why these properties are unexpected. A previously unreported property in a prior art composition does not necessarily make it unexpected.

#### ***Allowable Subject Matter***

Claims 9-15 and 17-19 are allowable for the reasons outlined previously.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

Art Unit: 1712

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 5, 2005



MARGARET G. MOORE  
PRIMARY PATENT EXAMINER  
ART UNIT 1712